

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (withdrawn-currently amended) A method of inhibiting B-cell growth or immunoglobulin production, or both, in a mammal comprising the step of administering a therapeutically effective amount of a composition comprising a B cell maturation protein (BCMA) polypeptide wherein the BCMA polypeptide comprises selected from ~~the group consisting of:~~

- (a) ~~a BAFF-R polypeptide or fragment thereof;~~ an amino acid sequence that binds to B cell activating factor (BAFF) and is at least 80% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof; and
- (b) an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 8 to 41 of SEQ ID NO:1; or
- (c) a chimeric molecule comprising a BAFF-R polypeptide or fragment thereof the amino acid sequence of (a) or (b) fused to a heterologous amino acid sequence.

Claims 2 - 3. (canceled)

4. (withdrawn-currently amended) A method of ~~treatment of~~ treating an autoimmune disease in a mammal comprising the step of administering a therapeutically effective amount of a composition comprising a BCMA polypeptide, wherein the BCMA polypeptide comprises selected from the group consisting of:

- (a) ~~a BAFF-R polypeptide or fragment thereof~~ an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof; and
- (b) an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 8 to 41 of SEQ ID NO:1; or
- (c) ~~a chimeric molecule comprising a BAFF-R polypeptide or fragment thereof~~ the amino acid sequence of (a) or (b) fused to a heterologous amino acid sequence.

Claims 5 - 6. (canceled)

7. (withdrawn-currently amended) A method of treating a B-cell lymphoproliferate ~~disorders~~ disorder in a mammal comprising the step of administering a therapeutically effective amount of a ~~B-cell growth inhibitor~~ composition comprising a BCMA polypeptide, wherein the BCMA polypeptide comprises selected from the group consisting of:

- (a) ~~a BAFF-R polypeptide or fragment thereof~~ an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof; and
- (b) an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 8 to 41 of SEQ ID NO:1; or
- (c) ~~a chimeric molecule comprising a BAFF-R polypeptide or fragment thereof~~ the amino acid sequence of (a) or (b) fused to a heterologous amino acid sequence.

8. (withdrawn-currently amended) A method according to any one of claims 1, 4, and 7, wherein the BAFF-R BCMA polypeptide is soluble.

9. (withdrawn-currently amended) The method according to claim 8, wherein the soluble BAFF-R BCMA polypeptide comprises ~~a BAFF-R extracellular domain~~ amino acids 8 to 41 of SEQ ID NO:1.

10. (withdrawn-currently amended) The method of ~~claim 9~~ claim 8 wherein the ~~BAFF-R extracellular domain is fused to~~ polypeptide comprises the Fc domain of an immunoglobulin.

11. (withdrawn-currently amended) A method according to any one of claims 1, 4, and 7, wherein the ~~BAFF-R~~ BCMA polypeptide comprises ~~is selected from the group consisting of:~~

- ~~(a) an isolated native sequence BAFF-R polypeptide comprising amino acid residues 1 to 184 of SEQ ID NO:1 or a fragment thereof;~~
- ~~(b) an isolated BAFF-R polypeptide having at least 80% amino acid sequence identity with native sequence BAFF-R polypeptide comprising amino acid residues 1 to 184 of SEQ ID NO:1 or a fragment thereof;~~
- ~~(c) an isolated BAFF-R polypeptide having at least 90% amino acid sequence identity with native sequence BAFF-R polypeptide comprising amino acid residues 1 to 184 of SEQ ID NO:1 or a fragment;~~
- ~~an isolated BAFF-R polypeptide comprising amino acids acid residues 1 to 51 of SEQ ID NO:1 or a fragment thereof; and~~
- ~~(b) an isolated BAFF-R polypeptide comprising amino acids acid residues 8 to 41 of SEQ ID NO:1 or a fragment thereof; or~~
- ~~(c) the amino acid sequence of (a) or (b) fused to a heterologous amino acid sequence.~~

Claims 12 - 14. (canceled)

15. (withdrawn-currently amended) The method according to any one of claims 1, 4, and 7, wherein the mammal is human.

Claims 16 - 18. (canceled)

19. (currently amended) A pharmaceutical composition comprising a ~~therapeutically effective amount of an isolated BAFF-R polypeptide or a fragment thereof and a pharmaceutically acceptable carrier~~ and an amount of a BCMA polypeptide effective to inhibit B-cell expression or immunoglobulin expression, or both, wherein the BCMA polypeptide comprises:

- (a) an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof;
- (b) an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 8 to 41 of SEQ ID NO:1; or
- (c) the amino acid sequence of (a) or (b) fused to a heterologous amino acid sequence.

20. (currently amended) The pharmaceutical composition of claim 19 wherein the isolated BAFF-R BCMA polypeptide comprises ~~is selected from the group consisting of:~~

- (a) ~~an isolated native sequence BAFF-R polypeptide comprising amino acid residues 1 to 184 of SEQ ID NO:1 or a fragment thereof;~~
- (b) ~~an isolated BAFF-R polypeptide having at least 80% amino acid sequence identity with native sequence BAFF-R polypeptide comprising amino acid residues 1 to 184 of SEQ ID NO:1 or a fragment thereof;~~
- (c) ~~an isolated BAFF-R polypeptide having at least 90% amino acid sequence identity with native sequence BAFF-R polypeptide comprising amino acid residues 1 to 184 of SEQ ID NO:1 or a fragment;~~  
~~an isolated BAFF-R polypeptide comprising amino acids acid residues 1 to 51 of SEQ ID NO:1 or a fragment thereof; and~~
- (b) ~~an isolated BAFF-R polypeptide comprising amino acids acid residues 8 to 41 of SEQ ID NO:1 or a fragment thereof; or~~
- (c) the amino acid sequence of (a) or (b) fused to a heterologous amino acid sequence.

21. (currently amended) The pharmaceutical composition of claim 19 or claim 20 wherein the ~~BAFF-R~~ BCMA polypeptide fragment comprises a ~~BAFF-R extracellular domain fused to~~ the Fc domain of an immunoglobulin.

22-24. (canceled)

25. (currently amended) The pharmaceutical composition of claim 19 wherein the isolated BAFF-R BCMA polypeptide is an isolated BAFF-R polypeptide comprising amino acid residues comprises amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof that binds to BAFF capable of binding to BAFF.

26. (currently amended) The pharmaceutical composition of claim 19 wherein the isolated BAFF-R BCMA polypeptide is an isolated BAFF-R polypeptide comprising amino acid residues comprises amino acids 8 to 41 of SEQ ID NO:1 or a fragment thereof capable of binding to BAFF.

27. (currently amended) The pharmaceutical composition of claim 19 wherein the isolated BAFF-R BCMA polypeptide is an isolated BAFF-R polypeptide having at least 80% identity with to amino acid residues comprises an amino acid sequence that binds to BAFF and is at least 85% identical to amino acids 8 to 41 of SEQ ID NO:1.

28. (currently amended) The pharmaceutical composition of claim 27 wherein the isolated BAFF-R BCMA polypeptide is an isolated BAFF-R polypeptide having at least 90% identity with to amino acid residues comprises an amino acid sequence that binds to BAFF and is at least 90% identical to amino acids 8 to 41 of SEQ ID NO:1.

29. (currently amended) The pharmaceutical composition of claim 19 wherein the ~~isolated BAFF-R BCMA~~ polypeptide is an ~~isolated BAFF-R~~ polypeptide having at least ~~80% identity with to amino acid residues~~ comprises an amino acid sequence that binds to BAFF and is at least 85% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof.

30. (currently amended) The pharmaceutical composition of claim 29 wherein the ~~isolated BAFF-R BCMA~~ polypeptide is an ~~isolated BAFF-R~~ polypeptide having at least ~~90% identity with to amino acid residues~~ comprises an amino acid sequence that binds to BAFF and is at least 90% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof.

31. (currently amended) The pharmaceutical composition of any one of claims ~~22 to 28~~ 25-30 or 32-55 wherein the ~~BAFF-R BCMA~~ polypeptide is fused to the Fc domain of an immunoglobulin constant region.

32. (new) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and an amount of a BCMA polypeptide effective to inhibit B-cell expression or immunoglobulin expression, or both, wherein the BCMA polypeptide comprises:



- (a) an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof;
- (b) an amino sequence that binds to BAFF and is at least 80% identical to amino acids 8 to 41 of SEQ ID NO:1; or
- (c) the amino acid sequence of (a) or (b) fused to a heterologous amino acid sequence,

and wherein the BCMA polypeptide does not comprise the transmembrane domain of BCMA.

33. (new) The pharmaceutical composition of claim 32 wherein the BCMA polypeptide comprises an amino acid sequence that binds to BAFF and is at least 85% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof.

34. (new) The pharmaceutical composition of claim 33 wherein the BCMA polypeptide comprises an amino acid sequence that binds to BAFF and is at least 90% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof.

35. (new) The pharmaceutical composition of claim 34 wherein the BCMA polypeptide comprises amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof that binds to BAFF.

36. (new) The pharmaceutical composition of claim 32 wherein the BCMA polypeptide comprises an amino acid sequence that binds to BAFF and is at least 85% identical to amino acids 8 to 41 of SEQ ID NO:1.

37. (new) The pharmaceutical composition of claim 36 wherein the BCMA polypeptide comprises an amino acid sequence that binds to BAFF and is at least 90% identical to amino acids 8 to 41 of SEQ ID NO:1.

38. (new) The pharmaceutical composition of claim 37 wherein the BCMA polypeptide comprises amino acids 8 to 41 of SEQ ID NO:1.

39. (new) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and an amount of a polypeptide effective to inhibit B-cell expression or immunoglobulin expression, or both, wherein the polypeptide comprises a BCMA polypeptide consisting essentially of:

(a) an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof; or

(b) the amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 8 to 41 of SEQ ID NO:1.

40. (new) The pharmaceutical composition of claim 39 wherein the BCMA polypeptide consists essentially of an amino acid sequence that binds to BAFF and is at least 85% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof.

41. (new) The pharmaceutical composition of claim 40 wherein the BCMA polypeptide consists essentially of an amino acid sequence that binds to BAFF and is at least 90% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof.

42. (new) The pharmaceutical composition of claim 41 wherein the BCMA polypeptide consists essentially of amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof that binds to BAFF.

43. (new) The pharmaceutical composition of claim 39 wherein the BCMA polypeptide consists essentially of an amino acid sequence that binds to BAFF and is at least 85% identical to amino acids 8 to 41 of SEQ ID NO:1.

44. (new) The pharmaceutical composition of claim 43 wherein the BCMA polypeptide consists essentially of an amino acid sequence that binds to BAFF and is at least 90% identical to amino acids 8 to 41 of SEQ ID NO:1.

45. (new) The pharmaceutical composition of claim 44 wherein the BCMA polypeptide consists essentially of amino acids 8 to 41 of SEQ ID NO:1.

46. (new) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and an amount of a soluble BCMA polypeptide effective to inhibit B-cell expression or immunoglobulin expression, or both, wherein the soluble BCMA polypeptide comprises:

- (a) an amino acid sequence that binds to BAFF and is at least 80% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof;
- (b) an amino sequence that binds to BAFF and is at least 80% identical to amino acids 8 to 41 of SEQ ID NO:1; or
- (c) the amino acid sequence of (a) or (b) fused to a heterologous amino acid sequence.

47. (new) The pharmaceutical composition of claim 46 wherein the soluble BCMA polypeptide comprises an amino acid sequence that binds to BAFF and is at least 85% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof.

48. (new) The pharmaceutical composition of claim 47 wherein the soluble BCMA polypeptide comprises an amino acid sequence that binds to BAFF and is at least 90% identical to amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof.

49. (new) The pharmaceutical composition of claim 48 wherein the soluble BCMA polypeptide comprises amino acids 1 to 51 of SEQ ID NO:1 or a fragment thereof that binds to BAFF.

50. (new) The pharmaceutical composition of claim 46 wherein the soluble BCMA polypeptide comprises an amino acid sequence that binds to BAFF and is at least 85% identical to amino acids 8 to 41 of SEQ ID NO:1.

51. (new) The pharmaceutical composition of claim 50 wherein the soluble BCMA polypeptide comprises an amino acid sequence that binds to BAFF and is at least 90% identical to amino acids 8 to 41 of SEQ ID NO:1.

52. (new) The pharmaceutical composition of claim 51 wherein the soluble BCMA polypeptide comprises amino acids 8 to 41 of SEQ ID NO:1.